

REMARKS

Claims 2-3, 6-9, 13-14, 16 and 21-23 are pending in the above-identified application. Claims 2 and 3 have been amended so as to recite a component ratio range of 20:1 to 1:20 which is supportes at the last three lines of page 4 of the specification. The remaining pending claims have been amended so as to be consistent with the changes to claims 2 and 3, as well as the cancellation of claim 1. Support for new claims 21 and 22 is found in the component ratios exemplified in Tables A-D at pages 10-12 of the present specification.

Objections to Claims

The Office Action of February 26, 2007 indicates two sets of objections to the Patent Claims. First, claims 1-9 and 11-20 were objected to because of inconsistent claim language and an error in the formula in claim 3 as noted in the bottom two paragraphs at page 2 of the Office Action. Second, claims 6-9, 19 and 20 were objected to under 37 CFR 1.75(c) as being in improper dependent form because these claims could be interpreted to allow for application of the components separately, as opposed to as a mixture.

Regarding the first objection noted above, it is submitted that the present claims have been amended so as to include consistent claim language and remove the error in the formula in claim 3. Regarding the second objection, it is submitted that claims 7 and 23 properly depend from claims 6 and 16, respectfully, in that the fungicidal mixture must be formed ultimately in order for the treatment method to fall within the scope of these claims. It is submitted that the present claim language allows for these dependent claims to correctly and consistently depend from their base claims, i.e. claims 6 and 16. Consequently, it is requested that these objections be withdrawn.

Issues under 35 USC 103(a)

Claims 1-9 and 11-20 have been rejected under 35 USC 103(a) as being unpatentable over WO '607 (WO 98/46607) and Eicken '493 (USP 5,589,493). It appears to be the essential position of the Patent Examiner that the comparative test evidence in the present application falls short of supporting the full scope of the present claims. The Examiner emphasizes that only two compounds were tested as the fungicidal mixture and that previous claims 1-3 failed to recite any compound ratios.

In response to the position of the Patent Examiner as understood above, it is first respectfully submitted that the present claims now recite component ratios and have been amended so as to be directed to the combination of a specific triazolopyrimidine of formula I and either a specific amide compound of formula II wherein X^1 and X^2 are both chloro substituents (i.e. claim 3 which uses "boscalid" of formula II-5); or a small sub-genus of compounds which are structurally related to boscalid very closely such that X^1 is CF_3 or halogen and X^2 is halogen (i.e. claim 2). It is respectfully submitted that the comparative test data in Tables A-D strongly supports the scope of present independent claims 2 and 3, as well as the other pending claims of the present application. Consequently, even hypothetically assuming that *prima facie* obviousness has been properly alleged, such obviousness has been rebutted by the comparative test results which establish the unexpected, advantageous synergistic properties exhibited by the fungicidal mixtures of the present application as recited in the present claims. It is additionally submitted that there is in fact no adequate basis for alleging *prima facie* obviousness based on the additional reasons stated below.

Summary of Present Invention

The present invention is directed to the combination of: (A) a triazolopyrimidine of formula I encompassing only one specific compound; and (B) amide compounds of formula II which encompasses a relatively small sub-genus. Note that the compounds of formula I include:

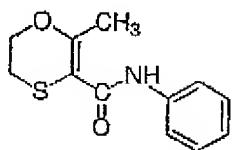
(1) a triazolopyrimidine fused ring system, (2) a pyridine ring; and (3) a trifluoro-substituted phenyl ring. Note that the structural features of the amide compounds of formula II include: (1) a substituted pyridine ring; and (2) a substituted by biphenyl ring system.

Failure of Cited References to Establish Prima Facie Case of Obviousness

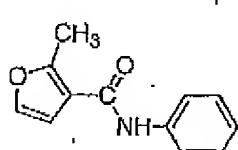
The reasons stated in the Office Action on the combination of WO '607 and Eicken '493 fail to provide an adequate basis for alleging obviousness in view of the reasons below.

WO '607 discloses the triazolopyrimidine compound of formula I used in the fungicidal mixture of the present invention. However, WO '607 fails to provide any reasonable suggestion to one skilled in the art to combine the described compounds with any compound having a structure even remotely similar to the compounds of Eicken '493. WO '607 discloses at pages 17-18 approximately 150 potential compounds which may be used together with the described triazolopyrimidine compounds. From among these disclosed compounds, the compounds having chemical structures closest to the relevant compounds of the sub-genus of formula II recited in the claims of the present application are the following:

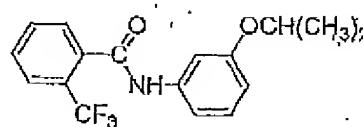
carboxin:



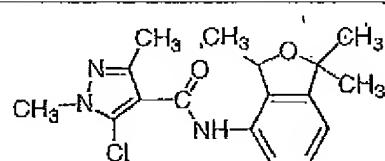
fenfuram:



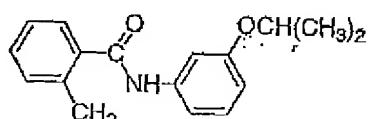
flutolanil:



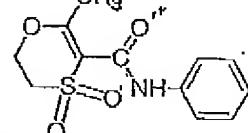
furametpyr:



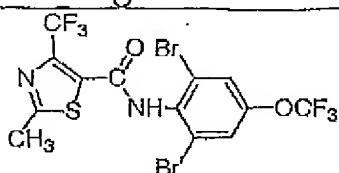
mepronil:



oxycarboxin:



thifluzomide:



It is clear from a review of the structures of the above compounds disclosed by WO '607 that all of these compounds fail to include either a pyridine ring or a biphenyl ring system, which are both required for the amide compounds of formula II of the present claims. In other words, WO '607 fails to disclose any compound which may possibly be combined with the described triazolopyrimidine compounds that has a structure even remotely similar to the structure of the sub-genus of amide compounds of formula II in the present claims.

Eicken '493 discloses a very large genus of anilide and amide compounds which may be combined with a list of about 80 fungicides as listed at columns 35-37. The compounds that are listed as potentially combinable in Eicken '493 fail to include any examples which have a triazolopyrimidine fused ring system as required by the compound of formula I of the mixture of the present invention. Thus, Eicken '493 fails to disclose any potential combinable compounds which have a chemical structure even remotely suggesting the structure of the triazolopyrimidine compound of formula I of the present invention.

Eicken '493 discloses a very large genus from which a small sub-genus of amide compounds has been selected for formula II recited in the present claims. Thus, one skilled in the art must select the small sub-genus of compounds of formula II from the large genus described in Eicken '493, but without any specified directions to do so. The Office Action fails to provide any evidence for this step in the selection process.

The reasons stated in support of the alleged *prima facie* obviousness fall far short of supporting the asserted rejection. The fact that the single compound of formula I and the small sub-genus of compounds of formula II are known fungicides which are known to be used together with other fungicides and have similar formulation properties merely supports the conclusion that the tens of thousands of compounds from the large genus of Eicken '493 may be combined with at least almost 80 other compounds which do not have required significant chemical structural features of the triazolopyrimidine compound of formula I of the present claims or any

of the related compounds in WO '607. In addition, it can only be argued that the various triazolopyrimidine compounds of WO '607 may be combined with almost 150 other compounds which fail to include either the pyridine ring or biphenyl ring system required by the sub-genus of compounds of formula II and selected from within the vary large genus of compounds described by Eicken '493.

In view of the above, the references cited in support of the rejection fall far short of establishing *prima facie* obviousness such that the above-noted rejection should be withdrawn. *In re Vaeck*, 20 USPQ2d 1438 (Fed. Cir. 1991); MPEP 2143. Thus, the focus in the Office Action on the scope of the comparative test results provided in the present application is misguided or misplaced. Since there is no *prima facie* basis for alleging obviousness in the first place, the Applicant is not required to provide evidence of unexpected, advantageous properties.

Evidence in Support of Rebuttal of Rejection

As noted above, none of the prior art cited by the Examiner shows or suggests a combination as recited in independent claim 1 of the instant invention. Accordingly, it is respectfully submitted that the present application is in condition for allowance.

However, assuming arguendo that the Examiner has made a *prima facie* case of obviousness under 35 U.S.C. 103, it is noted that Applicants have provided evidence of unexpected results that rebut such obviousness. When a chemical composition is claimed, a *prima facie* case of obviousness under § 103 may be established by the citation of a reference to a similar composition, the presumption being that similar compositions have similar properties. See *In re Dillon*, 919 F.2d 688, 692 (Fed. Cir. 1990) (*en banc*). One way for a patent applicant to rebut a *prima facie* case of obviousness is to make a showing of "unexpected results," i.e., to show that the claimed invention exhibits some superior property or advantage that a person of ordinary skill in the relevant art would have found surprising or unexpected. The basic principle behind this rule is straightforward -- that which would have been surprising to a person of

ordinary skill in a particular art would not have been obvious. *In re Soni*, 54 F.3d 746, 750 (Fed. Cir. 1995).

The instant invention is directed to methods for controlling harmful fungi. As disclosed by Applicants, the compounds of formula I and formula II have been known in the art for a number of years. However, until Applicants' research studies, they had never been combined before.

Applicants have provided the results of studies that are reproducible, include comparative data vis a vis controls or untreated specimens and, furthermore, are analyzed using analytical methods accepted by the scientific community, such as the Abbot and Colby methods.

As evidenced by Tables B and D in Applicant's Specification, one of ordinary skill in the art at the time of the invention would not have been motivated to combine the fungicide of formula I with the amine compound of formula II, because the expected efficacy of such a combination would have been very low, in some cases 0%. However, Applicants have discovered that the mixture of these compounds unexpectedly produces a synergistic effect, with mixture efficacies of up to 100% at certain specific concentrations (See Table D, Example 11). Applicants' evidence demonstrates significantly improved and unexpected results. When an applicant demonstrates substantially improved results and states that the results were unexpected, this is sufficient to establish unexpected results in the absence of evidence to the contrary. *In re Soni, supra*. Furthermore, given a presumption of similar properties for similar compositions, substantially improved properties are *ipso facto* unexpected. *Id.*

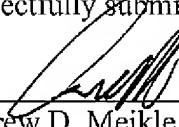
It is submitted for the reasons above that the present claims define patentable subject matter such that this application should now be placed in condition for allowance.

If any questions arise in the above matters, please contact Applicant's representative, Andrew D. Meikle (Reg. No. 32,868), in the Washington Metropolitan Area at the phone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated: August 27, 2007

Respectfully submitted,

By 
Andrew D. Meikle
Registration No.: 32,868
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant